Replacement Sheet

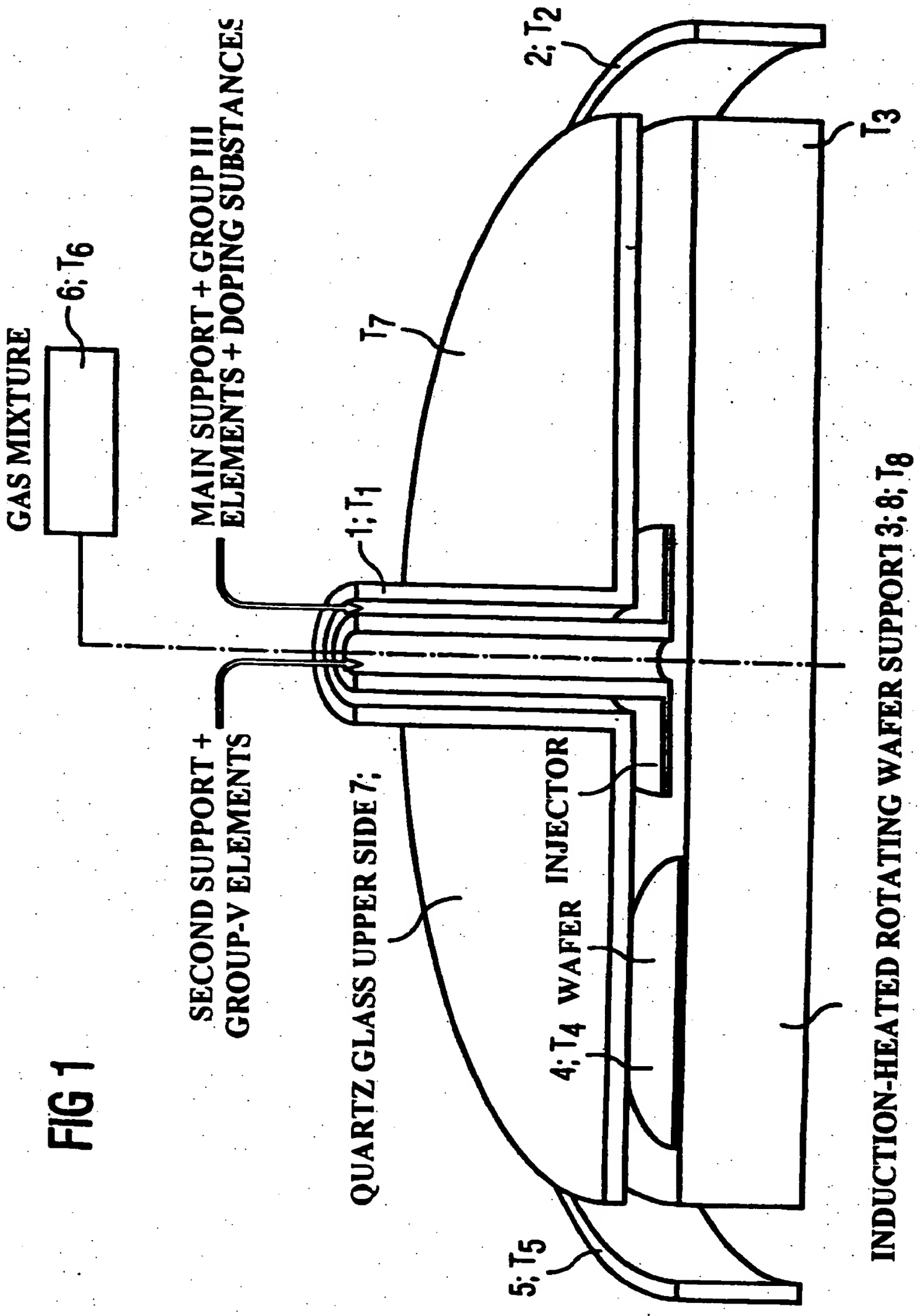

FIG 1

Replacement Sheet

FIG 2

In fraction as a function of the production temperature

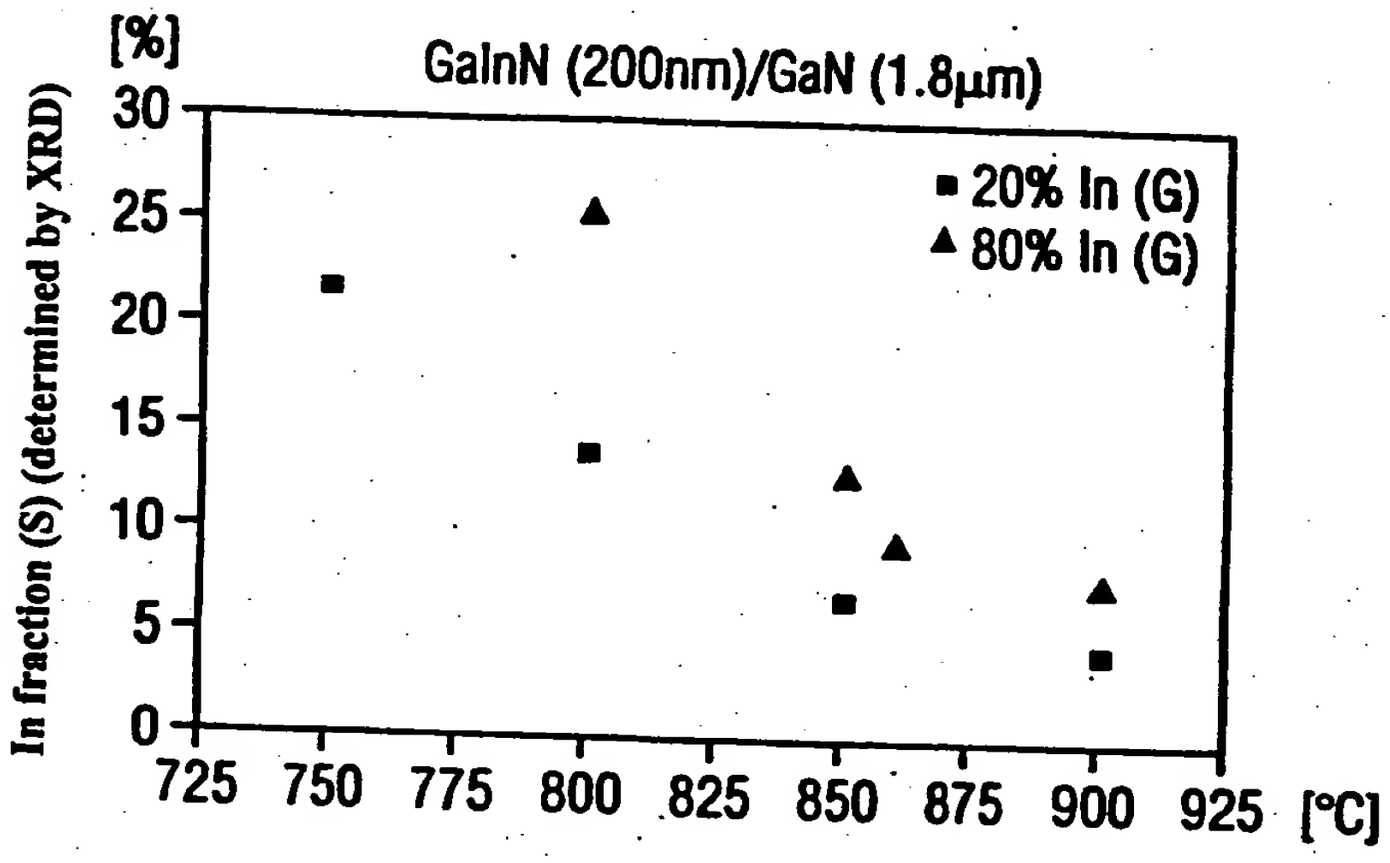

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FIG 3

LOG data of the AIXTRON MOVPE system
InGaN/G aN DH structure

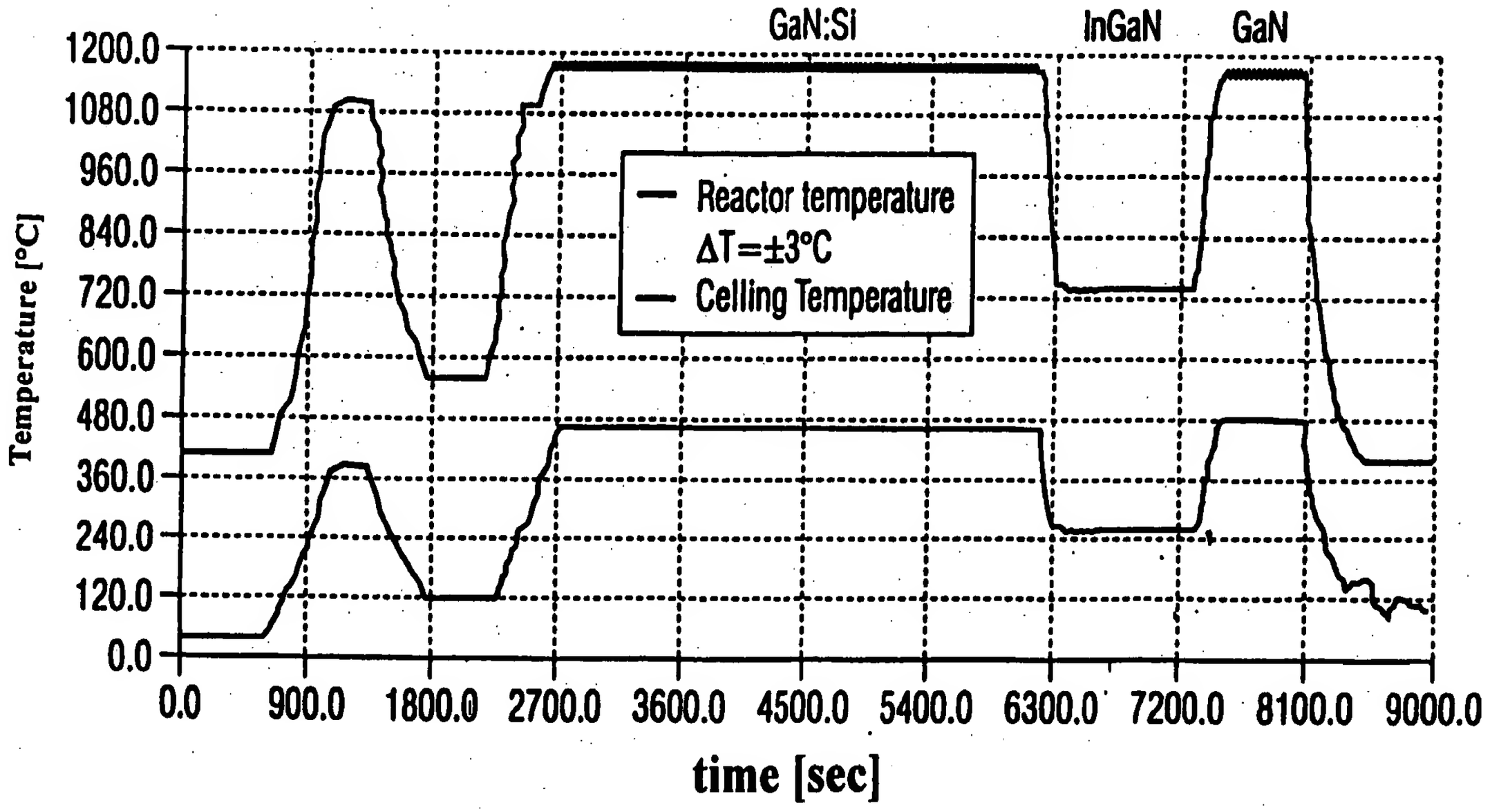
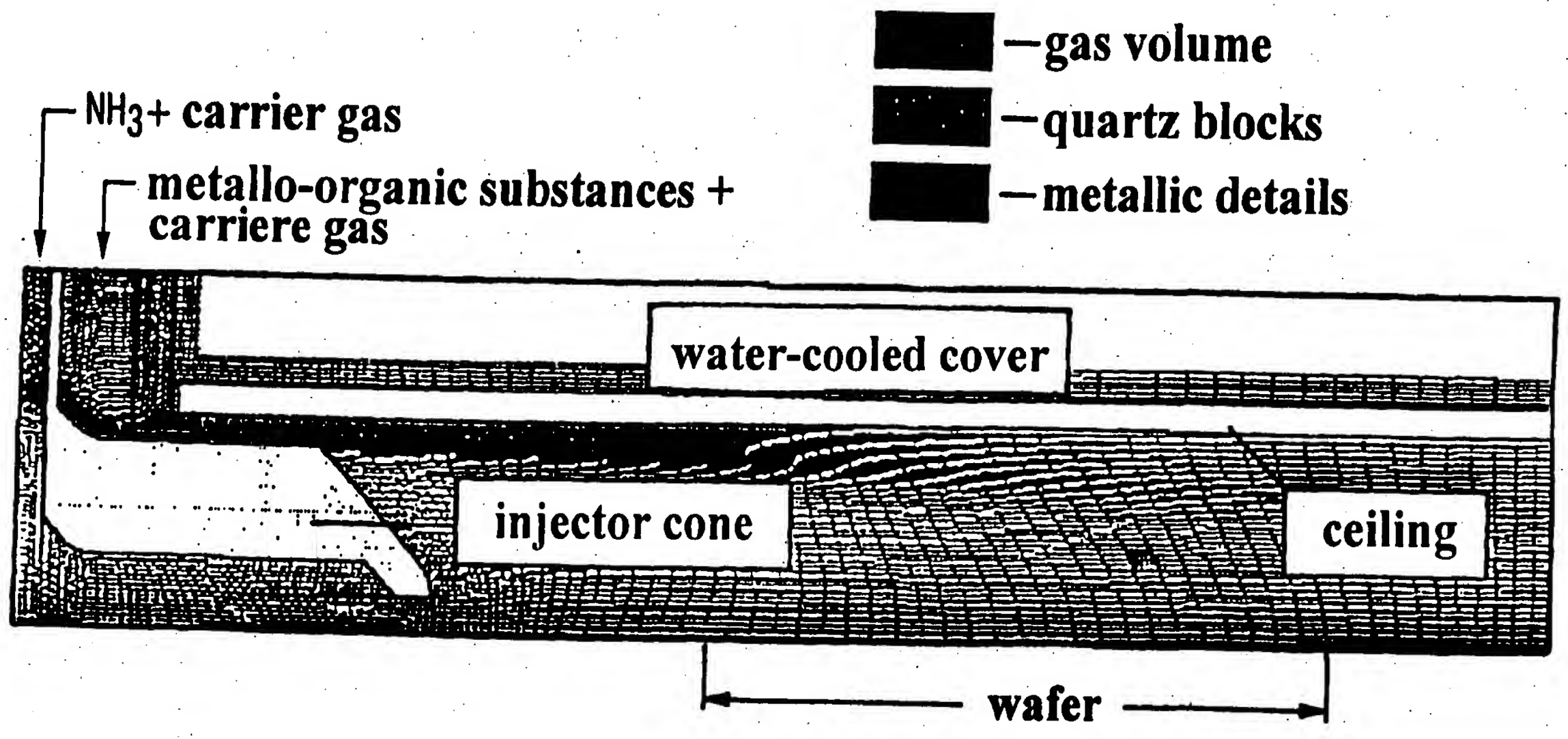


FIG 3a

Mass Transfer Model

Schematic illustration the computing range and the finite volume lattice for analysing the mass transfer



Temperature Distribution

The model explains:

-mixture and reaction of precursor flows
-grey diffuse radiation
-conjugated heat transmission

FIG 3b

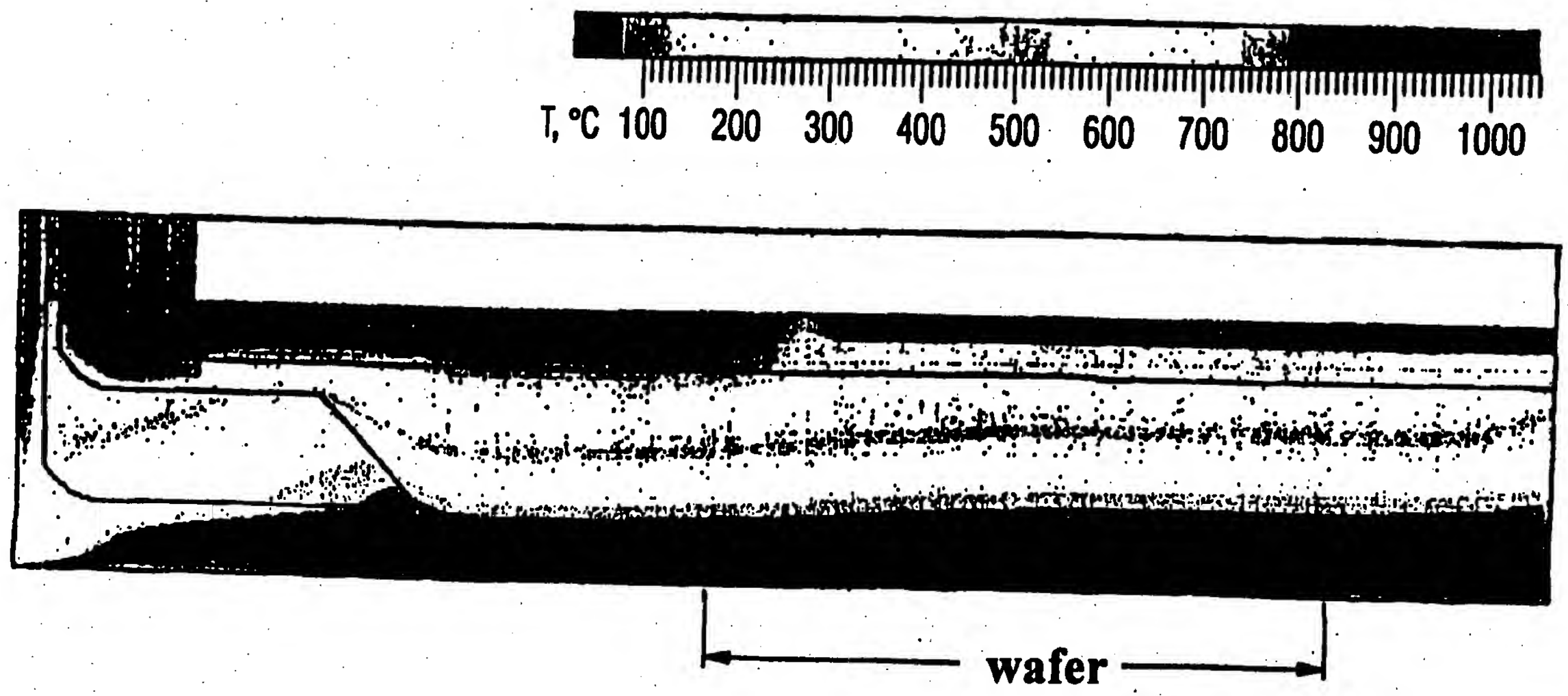


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FIG 3c

Detailed Thermal Model
Temperature Distribution

Total output 14 KW; cooling-gas mixture 50%H_2+50%N_2

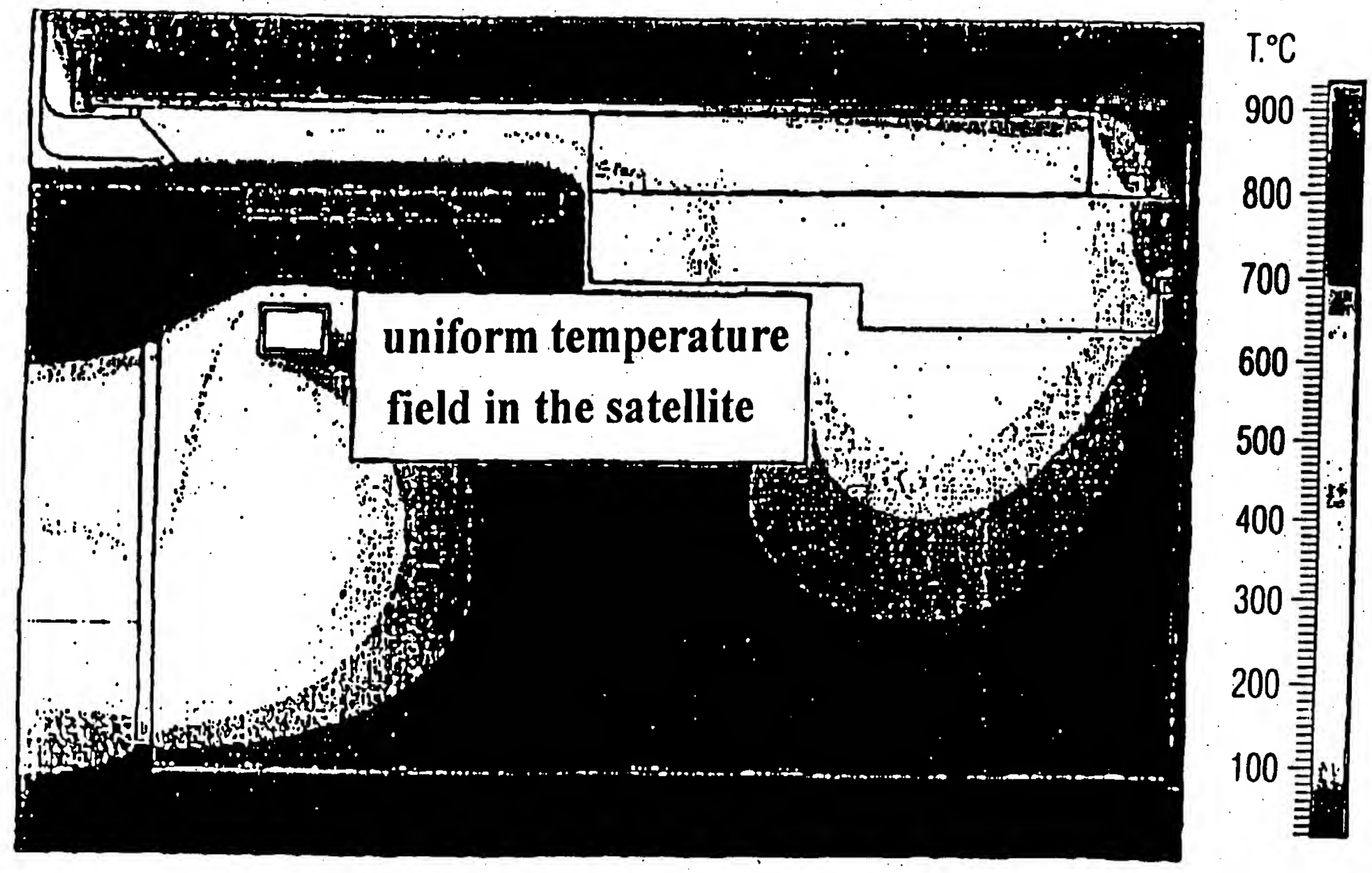

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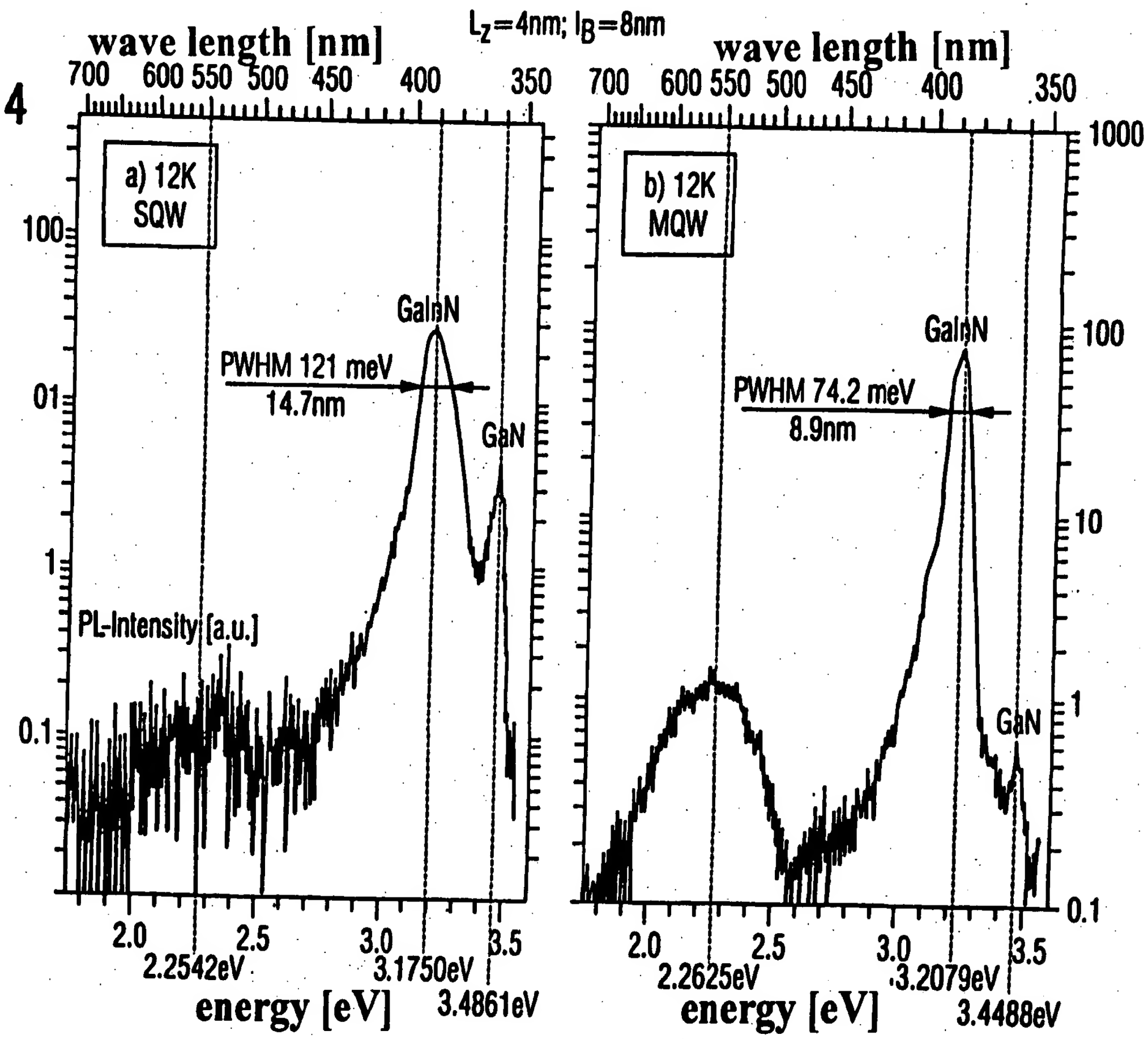
FIG 4

LT(12K)PL of SQW and MQW structures



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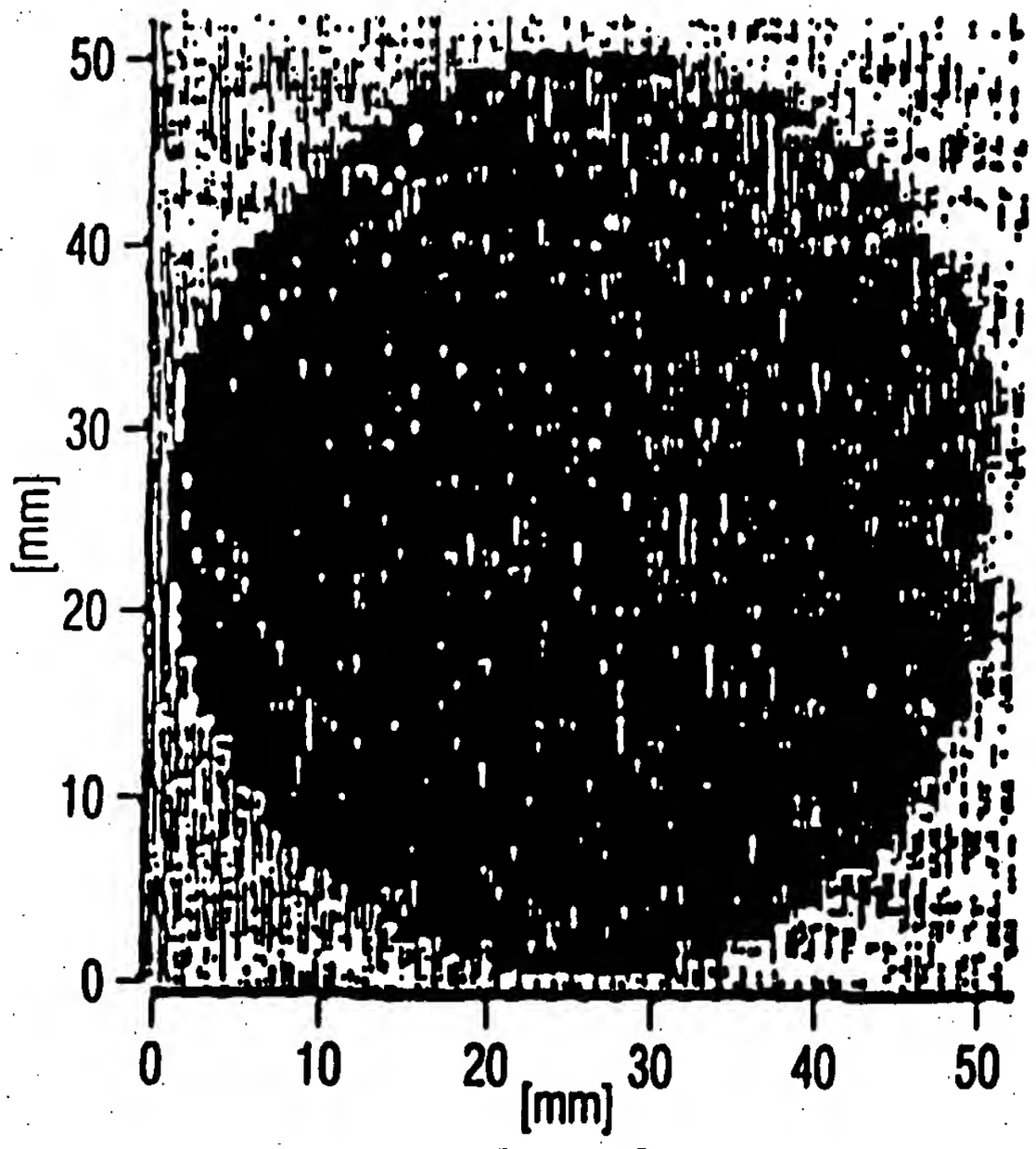
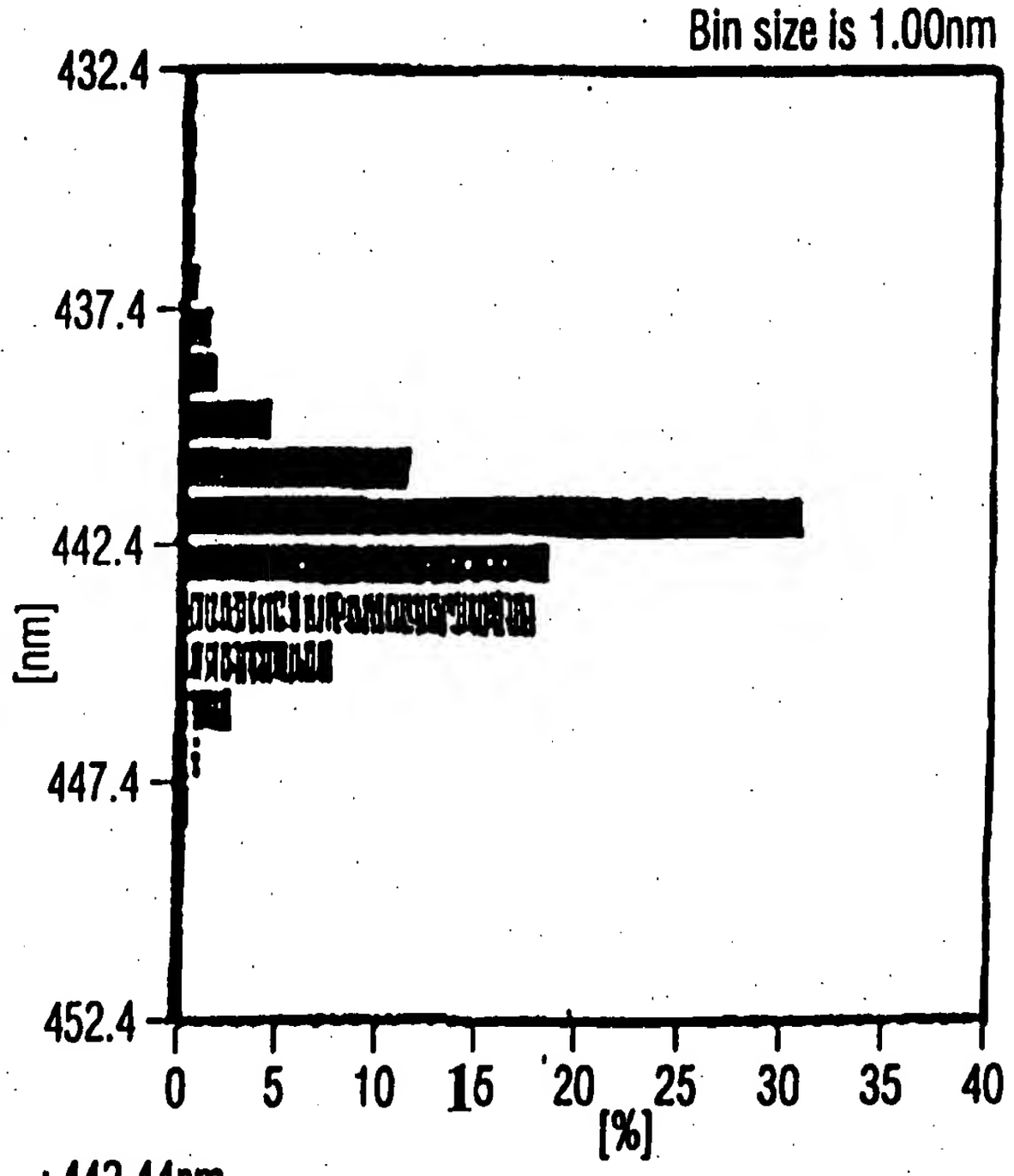
Uniformity of InGaN production in a multiple-wafer reaction chamber

Production in AIX 2000HT, wafer size: 7 x 2"



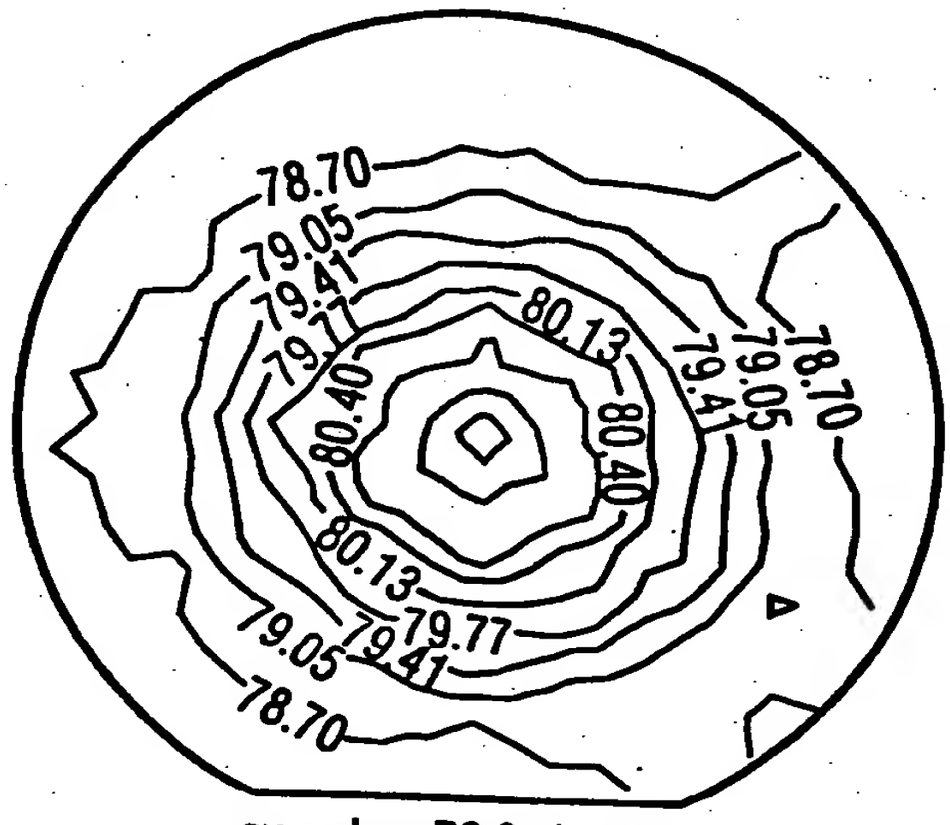


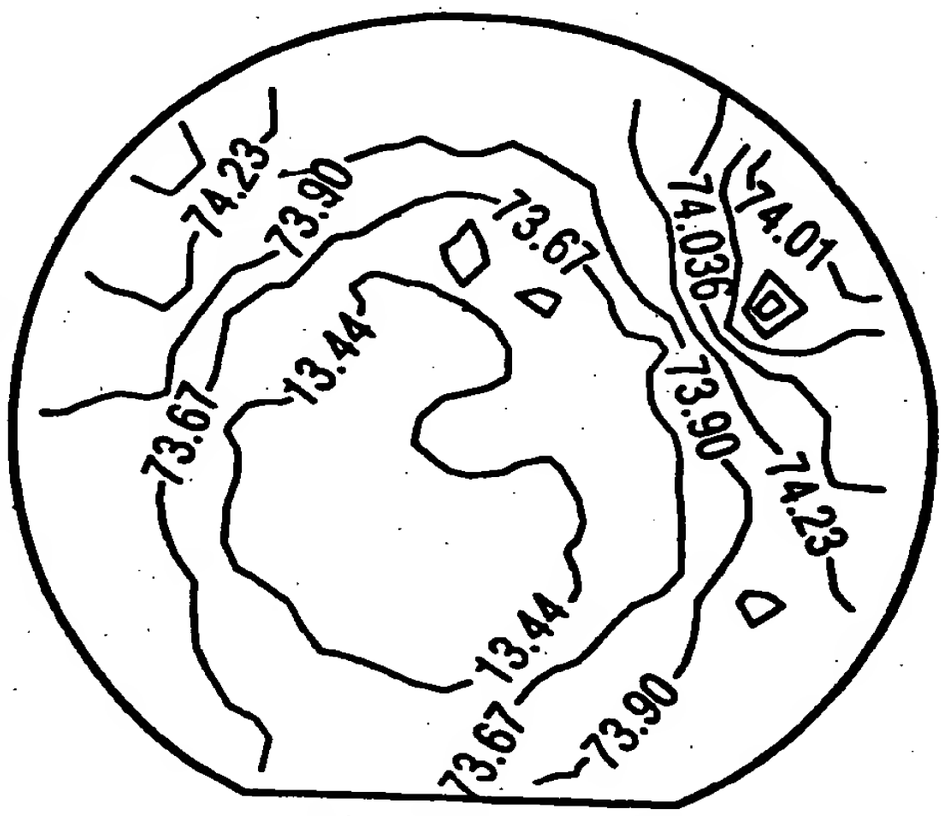
wave length	-average	: 442.44nm
	-r.m.s. deviation	: 1.74nm
	-mean value	: 442.20nm
	-10%	: 440.60nm
	-90%	: 444.40nm
laser		: UV_HeCd

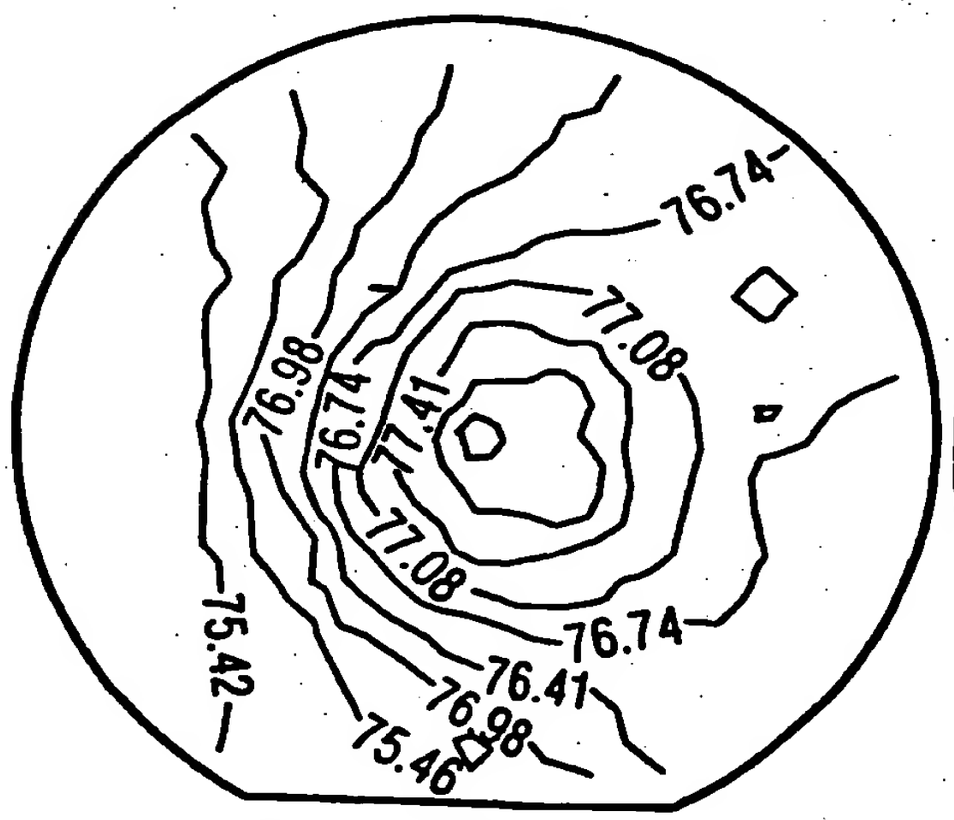
FIG 5

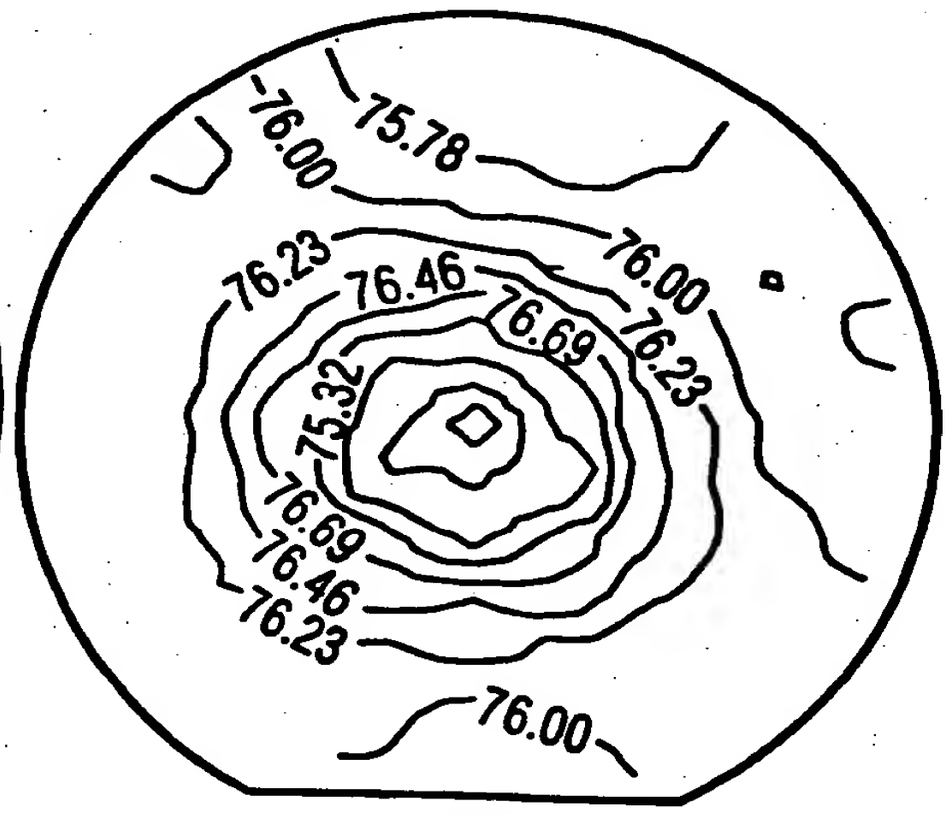
FIG 6

Wafer-to-wafer homogeneity of n-doped GaN/InGaN-DHS



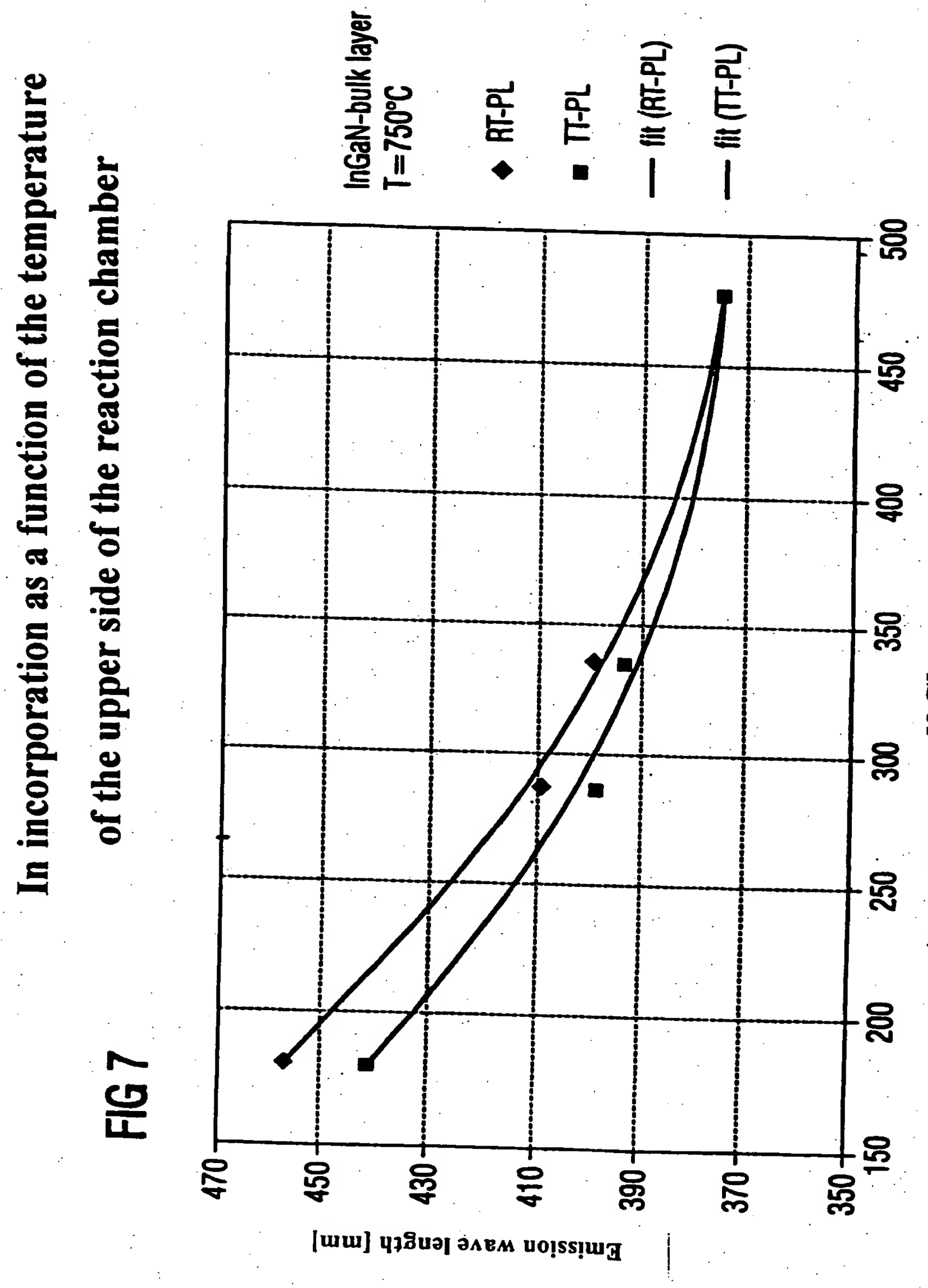






Wafer-to-wafer r.m.s. deviation: 2,7%

Replacement Sheet



In incorporation as a function of the temperature of the upper side of the reaction chamber

FIG 7

-reaction chamber underside T9
-reaction chamber injector T1
-reaction chamber ring T2
-reaction chamber upper side T7
-RF coil T8

FIG 8